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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,817

09/26/2003

Shuzo Nagami

P/1250-262

6907

2352 7590 06/13/2007
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EXAMINER

HECKERT, JASON MARK

ART UNIT

PAPER NUMBER

1746

MAIL DATE

DELIVERY MODE

06/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/671,817	Applicant(s) NAGAMI ET AL.	
	Examiner Jason Heckert	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Due to the cancellation of claims 1-3 and 5-8, the rejections of those claims are rendered moot.
2. Applicant's arguments, see page 5, filed 4/30/07, with respect to the rejection(s) of claim(s) 11-14 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a new interpretation of previously presented art.
3. Specifically, the applicant has amended the claims to further define the purge element as having an upper purge element and a lower purge element. Kamikawa teaches the need for an introduction of a drying gas and discloses a purge element that is substantially parallel to the surface of liquid (see figure 12). Hayashi also teaches gas introduction for drying and exhaust. Furthermore, Hayashi also discloses an upper purge element for introducing the drying gas to create a downflow so that particles may leave through the exhaust element thereby preventing adhesion. The examiner feels a combination of these elements would be obvious, due to the fact that motivations for their use are known in the art.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Kamikawa in view of Hayashi et al. Kamikawa discloses a substrate processing apparatus 18 comprising a cleaning tank to hold liquid 22, a holding element 24, liquid supply nozzles 25, a drying process chamber 23 with an interior and drying gas supply nozzles 44, wherein said holding element 24 displaces the substrate from the cleaning chamber to the drying chamber. Also disclosed is an exhaust port 28 located in the vicinity of the processing liquid. Supply nozzles 25 supply the chemical solution or cleaning agent as well as the rinse agent, such as heated distilled water. The gas supply nozzles, or purge elements, inject a drying gas like nitrogen in a direction substantially parallel to the surface of the processing liquid (see Figures 3, 4, and 12) and are located above an exhaust port. In Fig. 3 the substrate W is clearly depicted as being supported parallel to the vertical direction. Kamikawa discloses all of the features of the applicant's invention except the downwardly directed upper purge element. Hayashi discloses the use of a downward directed gas in a substrate cleaning apparatus (see figure 9). According to Hayashi, this allows particles to flow out of the chamber without adhering to the cleaned substrates (col. 11 line 23-41). Hayashi further discloses a heating element 122 and blower 138. Used in conjunction with controlling system 130, various parameters such as heat and humidity can be controlled. It would have been obvious at the time of the invention to modify Kamikawa and include a downwardly directed gas stream so as to prevent particles from adhering to substrates during the drying process, as taught by Hayashi, so as to allow effective

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drying of the substrates. The heat and humidity control, also taught by Hayashi, are also considered to be known and obvious modifications.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heckert whose telephone number is (571) 272-2702. The examiner can normally be reached on Mon. to Friday, 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JMH

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PRIMARY EXAMINER